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(Reaffirmed 2018)

भारतीय मानक

ढलवाँ तांबा मिश्र धातु के ट्रैप — विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

CAST COPPER ALLOY TRAPS — SPECIFICATION

(First Revision)

ICS 91.140.70

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BUREAU OF INDIAN STANDARDS

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Price Group 5

FOREWORD

This Indian Standard (First Revision), was adopted by the Bureau of Indian Standards after the draft finalized by the Sanitary Appliances and Water Fittings Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1969. In this revision following major modifications have been made, keeping in view the practices being followed in the country and Internationally:

- a) New type of traps that is tube traps and bottle traps have been included.
- b) Performance tests have been specified.
- c) Dimension of various types of traps and raw material have been specified as per current manufacturing practices prevailing in the country.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CAST COPPER ALLOY TRAPS — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard covers requirements for material, manufacture and workmanship, nominal sizes and dimensions, finish and testing of copper alloy traps, 'P', 'S', tube traps and bottle type traps for use in wash basin, sink, bath tub and similar waste appliances.

2 REFERENCES

The standards given in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards given in Annex A.

3 TERMINOLOGY

For the purpose of this standard, the definition given in IS 10446 shall apply.

4 CLASSIFICATION

- a) Cast Traps 'P' and 'S'.
- b) Tube traps 'P' and 'S'.
- c) Bottle traps with division.
- d) Bottle trap with dip tube.

5 MATERIALS

Materials used for different components shall be in accordance with Table 1.

6 MANUFACTURE AND WORKMANSHIP

6.1 Cast traps 'P' and 'S' and cast body of bottle traps shall in all respects be sound, free from laps, blow holes, pitting and other manufacturing defects. External and internal surface shall be clean and smooth. They shall be neatly dressed. They shall not be burnt, plugged, stopped or patched.

6.2 Screw Threads

The inlet and outlet threads, where provided shall be pipe threads conforming to IS 2643.

7 NOMINAL SIZE AND DIMENSIONS**7.1 Nominal Size**

Cast traps 'P', 'S' shall be of nominal size 32, 40 and 50. Tube traps and bottle traps shall be of nominal size 32 and 40.

7.2 Dimensions

7.2.1 Traps shall conform to the values specified in Table 2 read with Figs. 1 to 8.

7.2.2 Cast 'P', 'S' traps and cast body of bottle traps shall have a minimum thickness of 1.5 mm, except where a lesser thickness is specified.

NOTE — Figures 1 to 8 of different types of traps are given for illustrations only.

8 FINISH

The significant surface of traps shall be nickel —

Table 1 Material for Components of Traps
(Clauses 5 and 9.1)

Sl No. (1)	Component (2)	Material (3)	Ref to Relevant Indian Standard (4)
i)	Body cast trap, tail nut and body bottle trap	a) Cast brass b) Die cast brass c) Forged brass d) Brass rod	Grade LCB2 of IS 292 Grade DCB 2 of IS 1264 Grade FLB of IS 6912 Grade 1 Half Hard of IS 319
ii)	Body tube trap, inlet and outlet pipe	Brass tube	{ Grade Cu Zn 37 of IS 407 Grade Cu Zn 30 As of IS 407
iii)	Dip tube	a) Brass tube b) Plastic	{ Grade Cu Zn 37 of IS 407 Grade Cu Zn 30 As of IS 407 Polypropylene, Polyethylene
iv)	'O' Ring	Synthetic rubber	IS 9975 (Parts 1 to 4)
v)	Gaskets	Rubber	IS 5192 (Part 1)

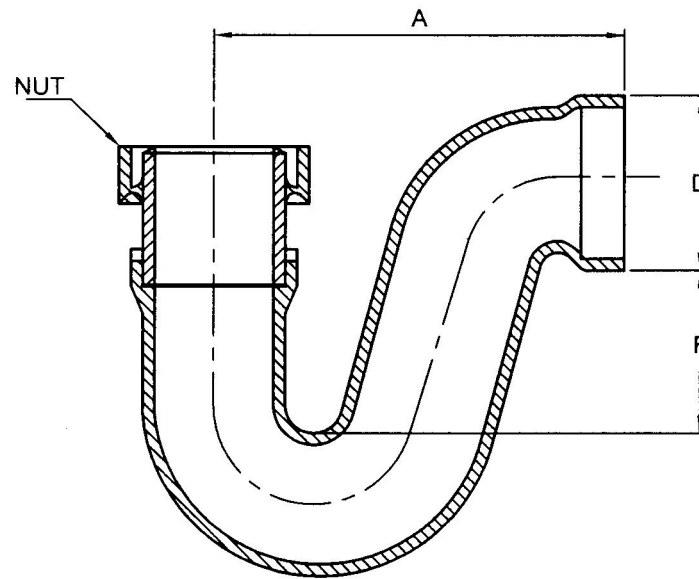


FIG. 1 CAST 'P' TRAP

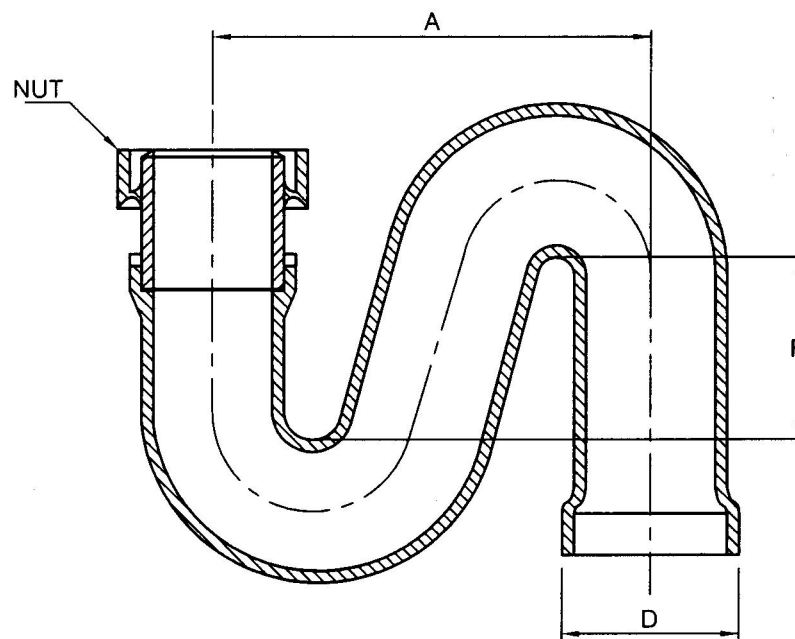


FIG. 2 CAST 'S' TRAP

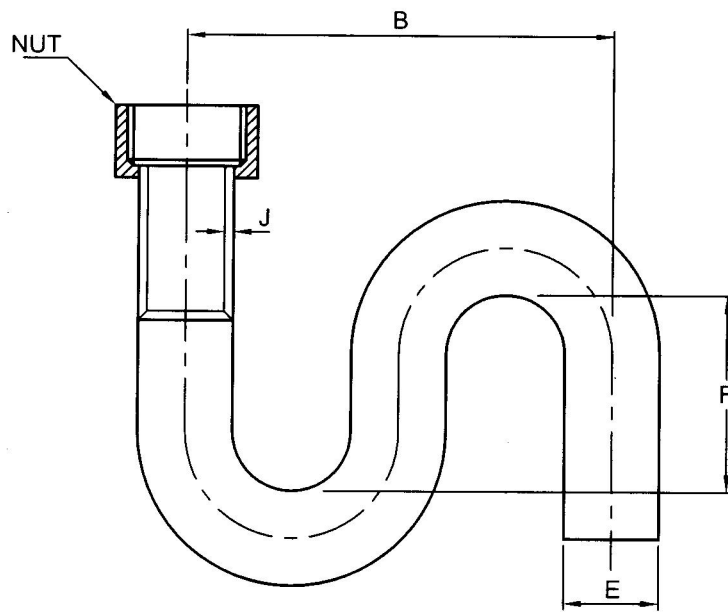


FIG. 3 TUBE TRAP 'S'

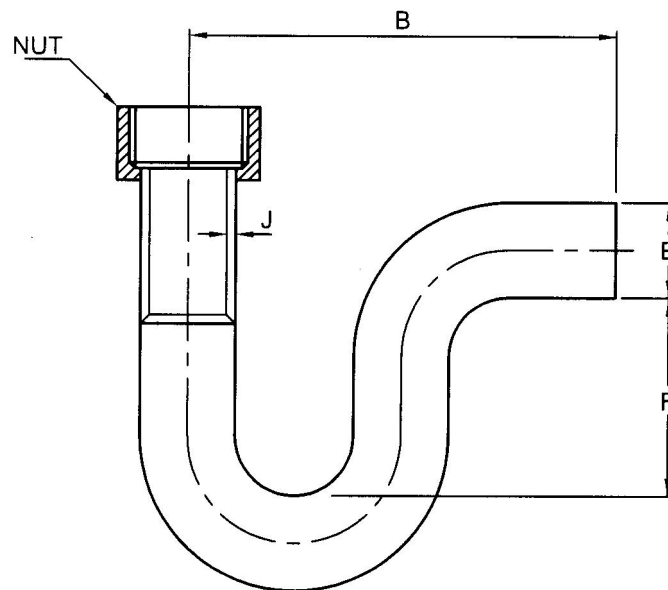


FIG. 4 TUBE TRAP 'P' (ONE PIECE)

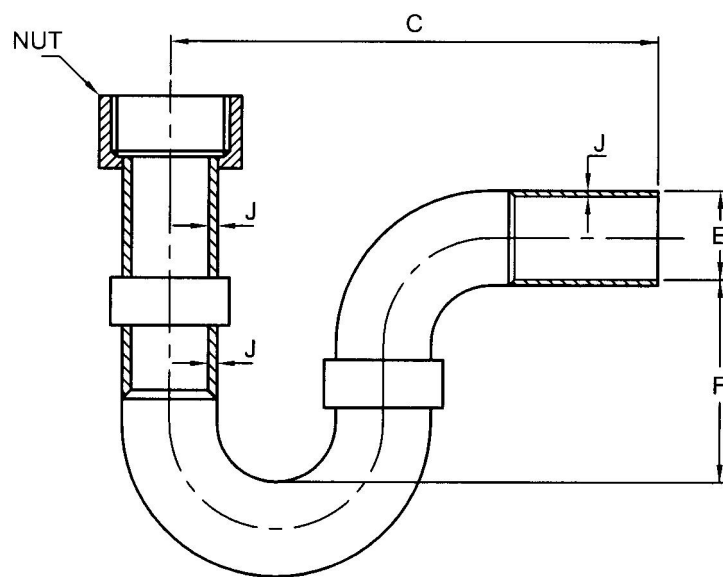


FIG. 5 TUBE TRAP 'P' (MULTIPLE PIECE)

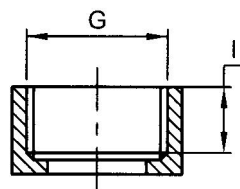


FIG. 6 CONNECTING NUT

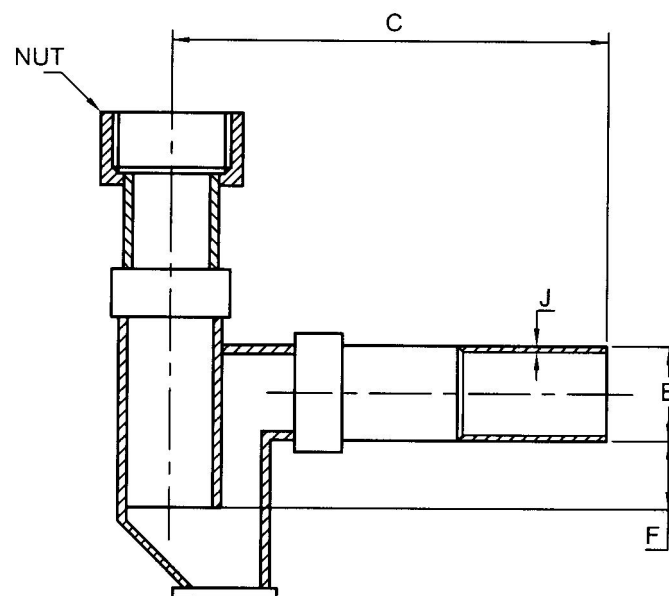


FIG. 7 BOTTLE TRAP WITH DIVISION

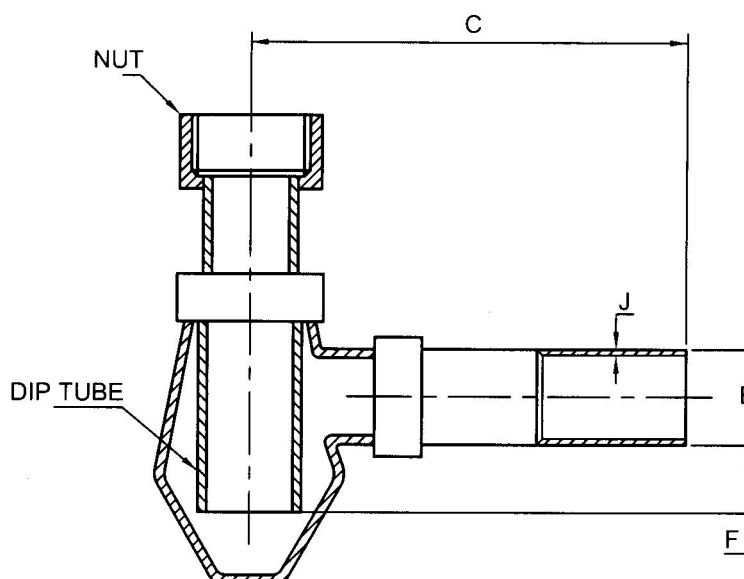


FIG. 8 BOTTLE TRAP WITH DIP TUBE

Table 2 Dimension of Cast Trap, Tube Trap and Bottle Trap
(Clause 7.2.1)

All dimensions in millimetres.

Sl No.	Particulars (see Fig. 1 to Fig. 8)	Nominal Size of Trap		
		32 (3)	40 (4)	50 (5)
i)	Distance between axis, A	95, <i>Min</i>	110, <i>Min</i>	130, <i>Min</i>
ii)	Distance between axis, B	110, <i>Min</i>	110, <i>Min</i>	—
iii)	Distance between axis, C	245, <i>Min</i>	245, <i>Min</i>	—
iv)	Connecting threads, D	G 1¼B	G 1½B	G 2B
v)	Diameter of outlet pipe, E	30, <i>Min</i>	38, <i>Min</i>	—
vi)	Depth of water seal, F	50, <i>Min</i>	50, <i>Min</i>	50, <i>Min</i>
vii)	Connection of trap to waste outlet, G	G 1¼	G 1½	G 2
viii)	Useful length of thread for tightening nut, H	6.5-10	6.5-10	6.5-10
ix)	Thickness of tube, J	0.5, <i>Min</i>	0.5, <i>Min</i>	—

chromium plated, complying with classification code Cu/Ni 05b Cr r of IS 1068.

NOTE — The significant surface is the part of surface, which is essential to the appearance or serviceability.

9 TESTING

9.1 Material

Material for different component parts of the traps shall conform to the requirements given in Table 1.

9.2 Performance Test

All traps shall comply with the requirements specified in 9.3 to 9.4.

9.3 Hydraulic Property

This test consists of determining the flow rate of water with constant pressure head. The typical test apparatus is shown in Fig. 9.

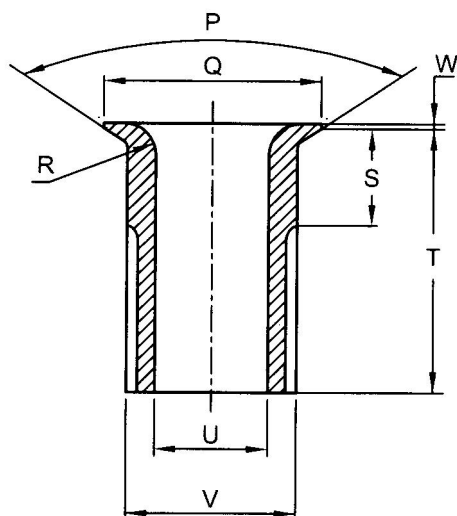
9.3.1 Procedure to Determine Flow Rate

Fit the reference outlet shown in figure under Table 3 to the test apparatus (see Fig. 9). Measurement is to be taken with a water height of 120 mm after ensuring that the water level has stabilized. The value of flow rate shall not be less than 0.7 litre/s.

9.4 Leak Tightness Test

All trap elements and connections have to be leak tight

Table 3 Dimensions for Reference Outlet
(Clause 9.3.1)



Sl No.	Legend	Dimensions for Nominal Size		
		32 (3)	40 (4)	50 (5)
i)	P	110°, Min	120°, Min	120°, Min
ii)	Q	60 to 63	70, Max	85, Max
iii)	R	15	20	25
iv)	S	36, Max	42, Max	42, Max
v)	T	70, Min	70, Min	70, Min
vi)	U	32, Max	41, Max	51, Max
vii)	V	G 1¼B	G 1½B	G 2B
viii)	W	1.0, Max	1.0, Max	1.0, Max

when subjected to a pressure of 0.01 MPa (1 m height water column). There shall be no water leakage 1 h after the test assembly has been filled as shown in Fig. 10.

10 MARKING

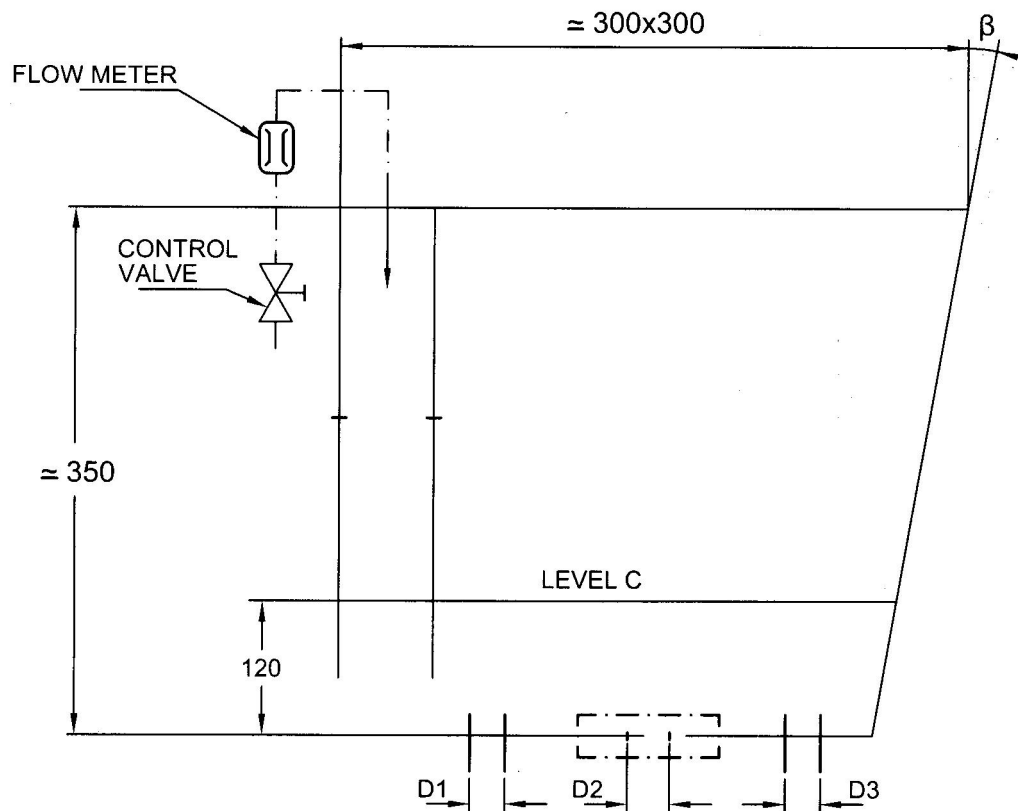
10.1 Each trap shall be legibly marked on any portion with the following:

- Manufacturer's name or trade-mark; and
- Batch No./Date of manufacture.

10.2 BIS Certification Marking.

Each trap may also be marked with the Standard Mark.

10.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.



- β = $8^\circ \pm 5^\circ$
 C = water level for waste outlet test.
 $D1$ = diameter of NB 32 waste outlet.
 $D2$ = diameter of NB 40 waste outlet.
 $D3$ = diameter of NB 50 waste outlet.

FIG. 9 TYPICAL TEST APPARATUS FOR MEASURING FLOW RATE

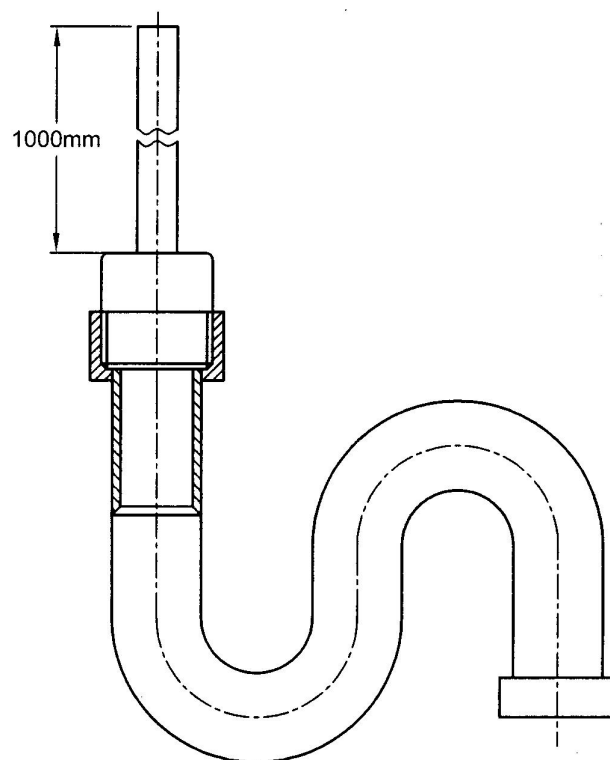
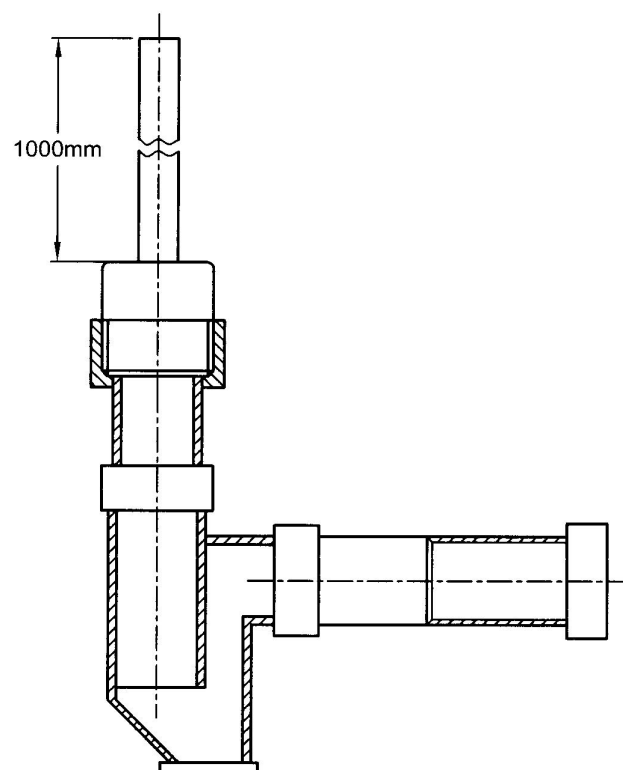


FIG. 10 LEAK TIGHTNESS TEST

ANNEX A*(Clause 2)***LIST OF REFERRED INDIAN STANDARDS**

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
292 : 1983	Specification for leaded brass ingots and castings (<i>second revision</i>)		Dimensions, tolerances and designation (<i>third revision</i>)
319 : 2007	Free cutting brass bars, rods and sections — Specification (<i>fifth revision</i>)	5192 : 1994	Natural rubber compounds — Specification: Part 1 For moulded products (<i>second revision</i>)
407 : 1981	Specification for brass tubes for general purposes (<i>third revision</i>)	6912 : 2005	Copper and copper alloy forgings stock and forging — Specification (<i>second revision</i>)
1068 : 1993	Electroplated coating of nickel plus chromium and copper plus nickel plus chromium — Specification (<i>third revision</i>)	9975	Specification for 'O' rings:
		(Part 1) : 1981	Dimensions
1264 : 1997	Brass gravity die castings (ingots and castings) — Specification (<i>fourth revision</i>)	(Part 2) : 1984	Material selection and quality acceptance criteria
		(Part 3) : 1984	Seal housing dimension, tolerances and design criteria for standard applications
2643 : 2005	Pipe threads where pressure-tight joints are not made on threads —	(Part 4) : 1984	Terminology and definition of terms
		10446 : 1983	Glossary of terms relating to water supply and sanitation

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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